

In order to assure traffic signals are installed only where necessary, a series of 8 warrants have been developed and accepted by Traffic Engineers throughout the country. These warrants are used in Council Bluffs to help determine where traffic signals should be installed.

Traffic signal warrants are contained in a manual developed by the U.S. Department of Transportation, titled, [Manual on Uniform Traffic Control Devices](#). This manual is commonly referred to as the MUTCD.

Traffic signal warrants are based on traffic demands. These warrants assure that traffic signals are installed only where the need exists to control traffic (vehicles, pedestrians, bicycles), assign right-of-ways, and/ or, address a documented safety condition. A signal must meet at least one of the warrants presented in the MUTCD prior to installation

A summary of the 8 warrants for traffic signals is presented below:

WARRANT Traffic Requirement

1) 8 Hour Traffic Volume or Interruption of Continuous Traffic Flow. This warrant is met when traffic volumes from both approaches are very heavy or the traffic volumes on one approach is high enough that it makes it very difficult for traffic on the minor street to cross the major roadway.

2) Four Hour Vehicle Volumes. This warrant is satisfied when during any four hour time periods of a typical day the traffic volume exceeds points plotted in a graph where variables such as traffic

volume, number of lanes and roadway environment are taken into consideration.

3) Peak Hour Volume. This warrant is similar to warrant two in which a point is plotted on a graph with similar variables as warrant 2. However, only a one hour time period is used rather than a four hour time period. This warrant is used around complexes which have large peak traffic periods such as industrial complexes, office buildings, stadiums and other large peak hour traffic generators.

4) Pedestrian Volumes. This warrant is intended for locations where large volumes of pedestrians experience excessive delay to cross a roadway. This warrant could be met in large city central business districts or communities with large tourist populations.

5) School Crossings. This warrant is used in school areas where a large number of students experience excessive delay crossing a major roadway. The number of adequate traffic gaps per hour and the number and groups of students are the typical indicators when completing engineering studies with this warrant in mind.

6) Coordinated Signal System. This warrant allows the installation of traffic signals where it becomes necessary to keep platoons of vehicles together for better coordination progression between signals located long distances apart or will aid in collectively providing progression among signalized intersections.

7) Crash Experience. This warrant is met when other forms of traffic control have been tried and not adequately reduced crashes which can be reduced by the installation of traffic signals. These crashes would normally be right angle crashes and others which can be reduced by traffic signals.

8) **Roadway Network.** This warrant is utilized to encourage concentration and organization of traffic flow on a roadway network.

SOURCE: Adapted from [Manual on Uniform Traffic Control Devices](#), (MUTCD) 2000 by the U.S. Department of Transportation.

Questions regarding the possible installation of a traffic signal, or other traffic controls, should be directed to the City Traffic Supervisor, 328-4645.